\_\_\_\_\_\_

Sequence Listing could not be accepted.

If you need help call the Patent Electronic Business Center at (866)

217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2009; month=11; day=23; hr=16; min=16; sec=44; ms=77; ]

\_\_\_\_\_\_

\*\*\*\*\*\*\*\*\*\*\*

Reviewer Comments:

<210> 2

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Derived from GenBank X07404

As an explanation of "Artificial Sequence", the above <223> response needs more information regarding the source in GenBank X07404 (e.g., Homo sapiens). Same error in Sequences 3-5. Sequence 17 and subsequent sequences show the source of the GenBank location.

<210> 32

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> (Gly Pro Gly Gly) x where x is an integer from 3-9

<400> 32

Gly Pro Gly Gly

1

Please explain the source of "Artificial Sequence". Also, please indicate that the maximum repeats of Gly Pro Gly Gly are shown in Sequence 50.

*****************	

## Validated By CRFValidator v 1.0.3

Application No: 10583812 Version No: 1.0

Input Set:

# Output Set:

**Started:** 2009-11-11 13:06:14.752

Finished: 2009-11-11 13:06:17.351

**Elapsed:** 0 hr(s) 0 min(s) 2 sec(s) 599 ms

Total Warnings: 50

Total Errors: 0

No. of SeqIDs Defined: 50

Actual SeqID Count: 50

Err	or code	Error Descript	ion								
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(1)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(2)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(3)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(4)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(5)
M	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(6)
M	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(7)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(8)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(9)
W	251	Found inter	ntio	onally s	kipped	sec	quence	in S	SEQII	) (1	.0)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(11)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(12)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(13)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(14)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(15)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(16)
M	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(17)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(18)
M	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(19)
W	213	Artificial	or	Unknown	found	in	<213>	in	SEQ	ID	(20)

### Input Set:

Output Set:

**Started:** 2009-11-11 13:06:14.752

Finished: 2009-11-11 13:06:17.351

**Elapsed:** 0 hr(s) 0 min(s) 2 sec(s) 599 ms

Total Warnings: 50

Total Errors: 0

No. of SeqIDs Defined: 50

Actual SeqID Count: 50

# Error code Error Description

W 213 Artificial or Unknown found in <213> in SEQ ID (21)

This error has occured more than 20 times, will not be displayed

#### SEQUENCE LISTING

```
<110> Cooper, Richard K.
      Enright, Frederick M.
      Fioretti, William C.
<120> Gene Therapy Using Transposon-Based Vectors
<130> 51687-0261 (331126)
<140> 10583812
<141> 2009-11-11
<150> PCT/US2004/43092
<151> 2004-12-24
<150> US 60/592,098
<151> 2004-07-28
<150> US 60/565,371
<151> 2004-04-26
<150> US 60/532,504
<151> 2003-12-24
<160> 50
<170> PatentIn version 3.3
<210> 1
<211> 54
<212> DNA
<213> Artificial Sequence
<220>
<223> Signal sequence for human tumor necrosis factor
<400> 1
atgctgggca tctggaccct cctacctctg gttcttacgt ctgttgctag atta
                                                                   54
<210> 2
<211> 15
<212> DNA
<213> Artificial Sequence
<220>
<223> Derived from GenBank X07404
<400> 2
gcgccagagc cgaaa
                                                                   15
<210> 3
```

<211> 30

<212> DNA

```
<213> Artificial Sequence
<220>
<223> Derived from GenBank X07404
<400> 3
gcgccagagc cgaaatggaa agtcttcaag
                                                                      30
<210> 4
<211> 78
<212> DNA
<213> Artificial Sequence
<220>
<223> Derived from GenBank X07404
<400> 4
aatttctcaa ggatattttt cttcgtgttc gctttggttc tggctttgtc aacagtttcg
                                                                      60
                                                                      78
gctgcgccag agccgaaa
<210> 5
<211> 93
<212> DNA
<213> Artificial Sequence
<220>
<223> Derived from GenBank X07404
<400> 5
aatttctcaa ggatattttt cttcgtgttc gctttggttc tggctttgtc aacagtttcg
gctgcgccag agccgaaatg gaaagtcttc aag
                                                                      93
<210> 6
<211> 7315
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic
<400> 6
ctgacgcgcc ctgtagcggc gcattaagcg cggcgggtgt ggtggttacg cgcagcgtga
                                                                     60
ccgctacact tgccagcgcc ctagcgcccg ctcctttcgc tttcttccct tcctttctcg
                                                                     120
ccacgttcgc cggcatcaga ttggctattg gccattgcat acgttgtatc catatcataa
                                                                     180
tatgtacatt tatattggct catgtccaac attaccgcca tgttgacatt gattattgac
                                                                     240
tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata tggagttccg
                                                                     300
cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc cccgcccatt
                                                                     360
```

gacgtcaata atgacgtatg	ttcccatagt	aacgccaata	gggactttcc	attgacgtca	420
atgggtggag tatttacggt	aaactgccca	cttggcagta	catcaagtgt	atcatatgcc	480
aagtacgccc cctattgacg	tcaatgacgg	taaatggccc	gcctggcatt	atgcccagta	540
catgacctta tgggactttc	ctacttggca	gtacatctac	gtattagtca	tcgctattac	600
catggtgatg cggttttggc	agtacatcaa	tgggcgtgga	tagcggtttg	actcacgggg	660
atttccaagt ctccacccca	ttgacgtcaa	tgggagtttg	ttttggcacc	aaaatcaacg	720
ggactttcca aaatgtcgta	acaactccgc	cccattgacg	caaatgggcg	gtaggcgtgt	780
acggtgggag gtctatataa	gcagagctcg	tttagtgaac	cgtcagatcg	cctggagacg	840
ccatccacgc tgttttgacc	tccatagaag	acaccgggac	cgatccagcc	tecgeggeeg	900
ggaacggtgc attggaacgc	ggattccccg	tgccaagagt	gacgtaagta	ccgcctatag	960
actctatagg cacacccctt	tggctcttat	gcatgctata	ctgtttttgg	cttggggcct	1020
atacacccc gcttccttat	gctataggtg	atggtatagc	ttagcctata	ggtgtgggtt	1080
attgaccatt attgaccact	cccctattgg	tgacgatact	ttccattact	aatccataac	1140
atggctcttt gccacaacta	tctctattgg	ctatatgcca	atactctgtc	cttcagagac	1200
tgacacggac tctgtatttt	tacaggatgg	ggtcccattt	attatttaca	aattcacata	1260
tacaacaacg ccgtcccccg	tgcccgcagt	ttttattaaa	catagcgtgg	gatctccacg	1320
cgaatctcgg gtacgtgttc	cggacatggg	ctcttctccg	gtagcggcgg	agcttccaca	1380
tccgagccct ggtcccatgc	ctccagcggc	tcatggtcgc	tcggcagctc	cttgctccta	1440
acagtggagg ccagacttag	gcacagcaca	atgcccacca	ccaccagtgt	gccgcacaag	1500
gccgtggcgg tagggtatgt	gtctgaaaat	gagcgtggag	attgggctcg	cacggctgac	1560
gcagatggaa gacttaaggc	agcggcagaa	gaagatgcag	gcagctgagt	tgttgtattc	1620
tgataagagt cagaggtaac	tcccgttgcg	gtgctgttaa	cggtggaggg	cagtgtagtc	1680
tgagcagtac tcgttgctgc	cdcdcdcdcc	accagacata	atagctgaca	gactaacaga	1740
ctgttccttt ccatgggtct	tttctgcagt	caccgtcgga	ccatgtgcga	actcgatatt	1800
ttacacgact ctctttacca	attctgcccc	gaattacact	taaaacgact	caacagctta	1860
acgttggctt gccacgcatt	acttgactgt	aaaactctca	ctcttaccga	acttggccgt	1920
aacctgccaa ccaaagcgag	aacaaaacat	aacatcaaac	gaatcgaccg	attgttaggt	1980
aatcgtcacc tccacaaaga	gcgactcgct	gtataccgtt	ggcatgctag	ctttatctgt	2040

tcgggcaata cgatgccca	at tgtacttgtt	gactggtctg	atattcgtga	gcaaaaacga	2100
cttatggtat tgcgagcti	c agtcgcacta	cacggtcgtt	ctgttactct	ttatgagaaa	2160
gcgttcccgc tttcagag	ca atgttcaaag	aaagctcatg	accaatttct	agccgacctt	2220
gcgagcattc taccgagta	aa caccacaccg	ctcattgtca	gtgatgctgg	ctttaaagtg	2280
ccatggtata aatccgtt	ga gaagctgggt	tggtactggt	taagtcgagt	aagaggaaaa	2340
gtacaatatg cagacctag	gg agcggaaaac	tggaaaccta	tcagcaactt	acatgatatg	2400
tcatctagtc actcaaaga	ac tttaggctat	aagaggctga	ctaaaagcaa	tccaatctca	2460
tgccaaattc tattgtata	aa atctcgctct	aaaggccgaa	aaaatcagcg	ctcgacacgg	2520
actcattgtc accacccgt	c acctaaaatc	tactcagcgt	cggcaaagga	gccatgggtt	2580
ctagcaacta acttacct	gt tgaaattcga	acacccaaac	aacttgttaa	tatctattcg	2640
aagcgaatgc agattgaag	ga aaccttccga	gacttgaaaa	gtcctgccta	cggactaggc	2700
ctacgccata gccgaacga	ng cagctcagag	cgttttgata	tcatgctgct	aatcgccctg	2760
atgcttcaac taacatgt	g gcttgcgggc	gttcatgctc	agaaacaagg	ttgggacaag	2820
cacttccagg ctaacacag	gt cagaaatcga	aacgtactct	caacagttcg	cttaggcatg	2880
gaagttttgc ggcattct	gg ctacacaata	acaagggaag	acttactcgt	ggctgcaacc	2940
ctactagctc aaaattta	t cacacatggt	tacgctttgg	ggaaattatg	aggggatcgc	3000
tctagagcga tccgggato	ct cgggaaaagc	gttggtgacc	aaaggtgcct	tttatcatca	3060
ctttaaaaat aaaaaacaa	nt tactcagtgc	ctgttataag	cagcaattaa	ttatgattga	3120
tgcctacatc acaacaaa	a ctgatttaac	aaatggttgg	tctgccttag	aaagtatatt	3180
tgaacattat cttgatta	a ttattgataa	taataaaaac	cttatcccta	tccaagaagt	3240
gatgcctatc attggttg	ga atgaacttga	aaaaaattag	ccttgaatac	attactggta	3300
aggtaaacgc cattgtcag	gc aaattgatcc	aagagaacca	acttaaagct	ttcctgacgg	3360
aatgttaatt ctcgttgad	c ctgagcactg	atgaatcccc	taatgatttt	ggtaaaaatc	3420
attaagttaa ggtggatad	ca catcttgtca	tatgatcccg	gtaatgtgag	ttagctcact	3480
cattaggcac cccaggct!	t acactttatg	cttccggctc	gtatgttgtg	tggaattgtg	3540
agcggataac aatttcaca	ac aggaaacagc	tatgaccatg	attacgccaa	gcgcgcaatt	3600
aaccctcact aaagggaad	ra aaaddtadad	ctccaccqcq	gtggcggccg	ctctagaact	3660
	a aaagetggag	ک ک		_	
agtggatccc ccgggctg					3720

cgttttacaa	cgtcgtgact	gggaaaaccc	tggcgttacc	caacttaatc	gccttgcagc	3840
acatccccct	ttcgccagct	ggcgtaatag	cgaagaggcc	cgcaccgatc	gcccttccca	3900
acagttgcgc	agcctgaatg	gcgaatggaa	attgtaagcg	ttaatatttt	gttaaaattc	3960
gcgttaaatt	tttgttaaat	cagctcattt	tttaaccaat	aggccgaaat	cggcaaaatc	4020
ccttataaat	caaaagaata	gaccgagata	gggttgagtg	ttgttccagt	ttggaacaag	4080
agtccactat	taaagaacgt	ggactccaac	gtcaaagggc	gaaaaaccgt	ctatcagggc	4140
gatggcccac	tactccggga	tcatatgaca	agatgtgtat	ccaccttaac	ttaatgattt	4200
ttaccaaaat	cattagggga	ttcatcagtg	ctcagggtca	acgagaatta	acattccgtc	4260
aggaaagctt	atgatgatga	tgtgcttaaa	aacttactca	atggctggtt	atgcatatcg	4320
caatacatgc	gaaaaaccta	aaagagcttg	ccgataaaaa	aggccaattt	attgctattt	4380
accgcggctt	tttattgagc	ttgaaagata	aataaaatag	ataggtttta	tttgaagcta	4440
aatcttcttt	atcgtaaaaa	atgccctctt	gggttatcaa	gagggtcatt	atatttcgcg	4500
gaataacatc	atttggtgac	gaaataacta	agcacttgtc	tcctgtttac	tcccctgagc	4560
ttgaggggtt	aacatgaagg	tcatcgatag	caggataata	atacagtaaa	acgctaaacc	4620
aataatccaa	atccagccat	cccaaattgg	tagtgaatga	ttataaataa	cagcaaacag	4680
taatgggcca	ataacaccgg	ttgcattggt	aaggctcacc	aataatccct	gtaaagcacc	4740
ttgctgatga	ctctttgttt	ggatagacat	cactccctgt	aatgcaggta	aagcgatccc	4800
accaccagcc	aataaaatta	aaacagggaa	aactaaccaa	ccttcagata	taaacgctaa	4860
aaaggcaaat	gcactactat	ctgcaataaa	tccgagcagt	actgccgttt	tttcgcccat	4920
ttagtggcta	ttcttcctgc	cacaaaggct	tggaatactg	agtgtaaaag	accaagaccc	4980
gtaatgaaaa	gccaaccatc	atgctattca	tcatcacgat	ttctgtaata	gcaccacacc	5040
gtgctggatt	ggctatcaat	gcgctgaaat	aataatcaac	aaatggcatc	gttaaataag	5100
tgatgtatac	cgatcagctt	ttgttccctt	tagtgagggt	taattgcgcg	cttggcgtaa	5160
tcatggtcat	agctgtttcc	tgtgtgaaat	tgttatccgc	tcacaattcc	acacaacata	5220
cgagccggaa	gcataaagtg	taaagcctgg	ggtgcctaat	gagtgagcta	actcacatta	5280
attgcgttgc	gctcactgcc	cgctttccag	tcgggaaacc	tgtcgtgcca	gctgcattaa	5340
tgaatcggcc	aacgcgcggg	gagaggcggt	ttgcgtattg	ggcgctcttc	cgcttcctcg	5400
ctcactgact	cgctgcgctc	ggtcgttcgg	ctgcggcgag	cggtatcagc	tcactcaaag	5460

gcggtaatac	ggttatccac	agaatcaggg	gataacgcag	gaaagaacat	gtgagcaaaa	5520
ggccagcaaa	aggccaggaa	ccgtaaaaag	gccgcgttgc	tggcgttttt	ccataggctc	5580
cgccccctg	acgagcatca	caaaaatcga	cgctcaagtc	agaggtggcg	aaacccgaca	5640
ggactataaa	gataccaggc	gtttccccct	ggaagctccc	tcgtgcgctc	tcctgttccg	5700
accctgccgc	ttaccggata	cctgtccgcc	tttctccctt	cgggaagcgt	ggcgctttct	5760
catagctcac	gctgtaggta	tctcagttcg	gtgtaggtcg	ttcgctccaa	gctgggctgt	5820
gtgcacgaac	cccccgttca	gcccgaccgc	tgcgccttat	ccggtaacta	tcgtcttgag	5880
tccaacccgg	taagacacga	cttatcgcca	ctggcagcag	ccactggtaa	caggattagc	5940
agagcgaggt	atgtaggcgg	tgctacagag	ttcttgaagt	ggtggcctaa	ctacggctac	6000
actagaagga	cagtatttgg	tatctgcgct	ctgctgaagc	cagttacctt	cggaaaaaga	6060
gttggtagct	cttgatccgg	caaacaaacc	accgctggta	gcggtggttt	ttttgtttgc	6120
aagcagcaga	ttacgcgcag	aaaaaaagga	tctcaagaag	atcctttgat	cttttctacg	6180
gggtctgacg	ctcagtggaa	cgaaaactca	cgttaaggga	ttttggtcat	gagattatca	6240
aaaaggatct	tcacctagat	ccttttaaat	taaaaatgaa	gttttaaatc	aatctaaagt	6300
atatatgagt	aaacttggtc	tgacagttac	caatgcttaa	tcagtgaggc	acctatctca	6360
gcgatctgtc	tatttcgttc	atccatagtt	gcctgactcc	ccgtcgtgta	gataactacg	6420
atacgggagg	gcttaccatc	tggccccagt	gctgcaatga	taccgcgaga	cccacgctca	6480
			9 9 9			
ccggctccag	atttatcagc					6540
	atttatcagc tatccgcctc	aataaaccag	ccagccggaa	gggccgagcg	cagaagtggt	6540 6600
cctgcaactt		aataaaccag catccagtct	ccagccggaa attaattgtt	gggccgagcg	cagaagtggt tagagtaagt	
cctgcaactt agttcgccag	tatccgcctc	aataaaccag catccagtct gcgcaacgtt	ccagccggaa attaattgtt gttgccattg	gggccgagcg gccgggaagc ctacaggcat	cagaagtggt tagagtaagt cgtggtgtca	6600
cctgcaactt agttcgccag cgctcgtcgt	tatccgcctc ttaatagttt	aataaaccag catccagtct gcgcaacgtt ttcattcagc	ccagccggaa attaattgtt gttgccattg tccggttccc	gggccgagcg gccgggaagc ctacaggcat aacgatcaag	cagaagtggt tagagtaagt cgtggtgtca gcgagttaca	6600 6660
cctgcaactt agttcgccag cgctcgtcgt tgatcccca	tatccgcctc ttaatagttt ttggtatggc	aataaaccag catccagtct gcgcaacgtt ttcattcagc aaaagcggtt	ccagccggaa attaattgtt gttgccattg tccggttccc agctccttcg	gggccgagcg gccgggaagc ctacaggcat aacgatcaag gtcctccgat	cagaagtggt tagagtaagt cgtggtgtca gcgagttaca cgttgtcaga	6600 6660 6720
cctgcaactt agttcgccag cgctcgtcgt tgatcccca	tatccgcctc  ttaatagttt  ttggtatggc  tgttgtgcaa	aataaaccag catccagtct gcgcaacgtt ttcattcagc aaaagcggtt atcactcatg	ccagccggaa attaattgtt gttgccattg tccggttccc agctccttcg gttatggcag	gggccgagcg gccgggaagc ctacaggcat aacgatcaag gtcctccgat cactgcataa	cagaagtggt tagagtaagt cgtggtgtca gcgagttaca cgttgtcaga ttctcttact	6600 6660 6720 6780
cctgcaactt agttcgccag cgctcgtcgt tgatcccca agtaagttgg	tatccgcctc  ttaatagttt  ttggtatggc  tgttgtgcaa  ccgcagtgtt	aataaaccag catccagtct gcgcaacgtt ttcattcagc aaaagcggtt atcactcatg cttttctgtg	ccagccggaa attaattgtt gttgccattg tccggttccc agctccttcg gttatggcag actggtgagt	gggccgagcg gccgggaagc ctacaggcat aacgatcaag gtcctccgat cactgcataa actcaaccaa	cagaagtggt tagagtaagt cgtggtgtca gcgagttaca cgttgtcaga ttctcttact gtcattctga	6600 6660 6720 6780
cctgcaactt agttcgccag cgctcgtcgt tgatcccca agtaagttgg gtcatgccat gaatagtgta	tatccgcctc  ttaatagttt  ttggtatggc  tgttgtgcaa  ccgcagtgtt  ccgtaagatg	aataaaccag catccagtct gcgcaacgtt ttcattcagc aaaagcggtt atcactcatg cttttctgtg gagttgctct	ccagccggaa attaattgtt gttgccattg tccggttccc agctccttcg gttatggcag actggtgagt tgcccggcgt	gggccgagcg gccgggaagc ctacaggcat aacgatcaag gtcctccgat cactgcataa actcaaccaa caatacggga	cagaagtggt tagagtaagt cgtggtgtca gcgagttaca cgttgtcaga ttctcttact gtcattctga taataccgcg	6600 6660 6720 6780 6840
cctgcaactt  agttcgccag  cgctcgtcgt  tgatcccca  agtaagttgg  gtcatgccat  gaatagtgta  ccacatagca	tatccgcctc  ttaatagttt  ttggtatggc  tgttgtgcaa  ccgcagtgtt  ccgtaagatg  tgcggcgacc	aataaaccag catccagtct gcgcaacgtt ttcattcagc aaaagcggtt atcactcatg cttttctgtg gagttgctct agtgctcatc	attaattgtt gttgccattg tccggttccc agctccttcg gttatggcag actggtgagt tgcccggcgt attggaaaac	gggccgagcg gccgggaagc ctacaggcat aacgatcaag gtcctccgat cactgcataa actcaaccaa caatacggga gttcttcggg	cagaagtggt tagagtaagt cgtggtgtca gcgagttaca cgttgtcaga ttctcttact gtcattctga taataccgcg gcgaaaactc	6600 6660 6720 6780 6840 6900
cctgcaactt agttcgccag cgctcgtcgt tgatcccca agtaagttgg gtcatgccat gaatagtgta ccacatagca tcaaggatct	tatccgcctc  ttaatagttt  ttggtatggc  tgttgtgcaa  ccgcagtgtt  ccgtaagatg  tgcggcgacc  gaactttaaa	aataaaccag catccagtct gcgcaacgtt ttcattcagc aaaagcggtt atcactcatg cttttctgtg gagttgctct agtgctcatc gagatccagt	attaattgtt gttgccattg tccggttccc agctccttcg gttatggcag actggtgagt tgcccggcgt attggaaaac tcgatgtaac	gggccgagcg gccgggaagc ctacaggcat aacgatcaag gtcctccgat cactgcataa actcaaccaa caatacggga gttcttcggg ccactcgtgc	cagaagtggt tagagtaagt cgtggtgtca gcgagttaca cgttgtcaga ttctcttact gtcattctga taataccgcg gcgaaaactc acccaactga	6600 6660 6720 6780 6840 6900 7020

caatattatt gaagcattta tcagggttat tgtctcatga gcggatacat atttgaatgt 7260 atttagaaaa ataaacaaat aggggttccg cgcacatttc cccgaaaagt gccac 7315

<210> 7

<211> 7689

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic

<400> 7

ctgacgcgcc ctgtagcggc gcattaagcg cggcgggtgt ggtggttacg cgcagcgtga 60 ccgctacact tgccagcgcc ctagcgcccg ctcctttcgc tttcttccct tcctttctcg 120 ccacgttcgc cggcatcaga ttggctattg gccattgcat acgttgtatc catatcataa 180 tatgtacatt tatattggct catgtccaac attaccgcca tgttgacatt gattattgac 240 tagttattaa tagtaatcaa ttacggggtc attagttcat agcccatata tggagttccg 300 cgttacataa cttacggtaa atggcccgcc tggctgaccg cccaacgacc cccgcccatt 360 gacgtcaata atgacgtatg ttcccatagt aacgccaata gggactttcc attgacgtca 420 480 atgggtggag tatttacggt aaactgccca cttggcagta catcaagtgt atcatatgcc 540 aagtacgccc cctattgacg tcaatgacgg taaatggccc gcctggcatt atgcccagta catgacctta tgggactttc ctacttggca gtacatctac gtattagtca tcgctattac 600 660 catggtgatg cggttttggc agtacatcaa tgggcgtgga tagcggtttg actcacgggg atttccaagt ctccacccca ttgacgtcaa tgggagtttg ttttggcacc aaaatcaacg 720 ggactttcca aaatgtcgta acaactccgc cccattgacg caaatgggcg gtaggcgtgt 780 acqqtqqqaq qtctatataa qcaqaqctcq tttaqtqaac cqtcaqatcq cctqqaqacq 840 ccatccacgc tgttttgacc tccatagaag acaccgggac cgatccagcc tccgcggccg 900 960 ggaacggtgc attggaacgc ggattccccg tgccaagagt gacgtaagta ccgcctatag actctatagg cacacccctt tggctcttat gcatgctata ctgtttttgg cttggggcct 1020 atacaccccc gcttccttat gctataggtg atggtatagc ttagcctata ggtgtgggtt 1080 attgaccatt attgaccact cccctattgg tgacgatact ttccattact aatccataac 1140 atggctcttt gccacaacta tctctattgg ctatatgcca atactctgtc cttcagagac 1200 1260 tgacacggac tctgtatttt tacaggatgg ggtcccattt attatttaca aattcacata

tacaacaacg ccgtcccccg	tgcccgcagt	ttttattaaa	catagcgtgg	gatctccacg	1320
cgaatctcgg gtacgtgttc	cggacatggg	ctcttctccg	gtagcggcgg	agcttccaca	1380
tccgagccct ggtcccatgc	ctccagcggc	tcatggtcgc	tcggcagctc	cttgctccta	1440
acagtggagg ccagacttag	gcacagcaca	atgcccacca	ccaccagtgt	gccgcacaag	1500
gccgtggcgg tagggtatgt	gtctgaaaat	gagcgtggag	attgggctcg	cacggctgac	1560
gcagatggaa gacttaaggc	agcggcagaa	gaagatgcag	gcagctgagt	tgttgtattc	1620
tgataagagt cagaggtaac	tcccgttgcg	gtgctgttaa	cggtggaggg	cagtgtagtc	1680
tgagcagtac tcgttgctgc	cdcdcdcdcc	accagacata	atagctgaca	gactaacaga	1740
ctgttccttt ccatgggtct	tttctgcagt	caccgtcgga	ccatgtgtga	acttgatatt	1800
ttacatgatt ctctttacca	attctgcccc	gaattacact	taaaacgact	caacagctta	1860
acgttggctt gccacgcatt	acttgactgt	aaaactctca	ctcttaccga	acttggccgt	1920
aacctgccaa ccaaagcgag	aacaaaacat	aacatcaaac	gaatcgaccg	attgttaggt	1980
aatcgtcacc tccacaaaga	gcgactcgct	gtataccgtt	ggcatgctag	ctttatctgt	2040
tcgggaatac gatgcccatt	gtacttgttg	actggtctga	tattcgtgag	caaaaacgac	2100
ttatggtatt gcgagcttca	gtcgcactac	acggtcgttc	tgttactctt	tatgagaaag	2160
cgttcccgct ttcagagcaa	tgttcaaaga	aagctcatga	ccaatttcta	gccgaccttg	2220
cgagcattct accgagtaac	accacaccgc	tcattgtcag	tgatgctggc	tttaaagtgc	2280
catggtataa atccgttgag	aagctgggtt	ggtactggtt	aagtcgagta	agaggaaaag	2340
tacaatatgc agacctagga	gcggaaaact	ggaaacctat	cagcaactta	catgatatgt	2400
catctagtca ctcaaagact	ttaggctata	agaggctgac	taaaagcaat	ccaatctcat	2460
gccaaattct attgtataaa	tctcgctcta	aaggccgaaa	aaatcagcgc	tcgacacgga	2520
ctcattgtca ccacccgtca	cctaaaatct	actcagcgtc	ggcaaaggag	ccatgggttc	2580
tagcaactaa cttacctgtt	gaaattcgaa	cacccaaaca	acttgttaat	atctattcga	2640
agcgaatgca gattgaagaa	accttccgag	acttgaaaag	tcctgcctac	ggactaggcc	2700
tacgccatag ccgaacgagc	agctcagagc	gttttgatat	catgctgcta	atcgccctga	2760
tgcttcaact aacatgttgg	cttgcgggcg	ttcatgctca	gaaacaaggt	tgggacaagc	2820
acttccaggc taacacagtc	agaaatcgaa	acgtactctc	aacagttcgc	ttaggcatgg	2880
aagttttgcg gcattctggc	tacacaataa	caagggaaga	cttactcgtg	gctgcaaccc	2940
tactagctca aaatttattc	acacatggtt	acgctttggg	gaaattatga	taatgatcca	3000

gatcacttct ggctaataaa	agatcagagc	tctagagatc	tgtgtgttgg	ttttttgtgg	3060
atctgctgtg ccttctagtt	gccagccatc	tgttgtttgc	ccctccccg	tgccttcctt	3120
gaccctggaa ggtgccactc	ccactgtcct	ttcctaataa	aatgaggaaa	ttgcatcgca	3180
ttgtctgagt aggtgtcatt	ctattctggg	gggtggggtg	gggcagcaca	gcaaggggga	3240
ggattgggaa gacaatagca	ggcatgctgg	ggatgcggtg	ggctctatgg	gtacctctct	3300
ctctctct ctctctct	ctctctctct	ctctcggtac	ctctctct	ctctctct	3360
ctctctct ctctctct	cggtaccagg	tgctgaagaa	ttgacccggt	gaccaaaggt	3420
gccttttatc atcactttaa	aaataaaaaa	caattactca	gtgcctgtta	taagcagcaa	3480
ttaattatga ttgatgccta	catcacaaca	aaaactgatt	taacaaatgg	ttggtctgcc	3540
ttagaaagta tatttgaaca	ttatcttgat	tatattattg	ataataataa	aaaccttatc	3600
cctatccaag aagtgatgcc	tatcattggt	tggaatgaac	ttgaaaaaaa	ttagccttga	3660
atacattact ggtaaggtaa	acgccattgt	cagcaaattg	atccaagaga	accaacttaa	3720
agctttcctg acggaatgtt	aattctcgtt	gaccctgagc	actgatgaat	cccctaatga	3780
ttttggtaaa aatcattaag	ttaaggtgga	tacacatctt	gtcatatgat	cccggtaatg	3840
tgagttagct cactcattag	gcaccccagg	ctttacactt	tatgcttccg	gctcgtatgt	3900
tgtgtggaat tgtgagcgga	taacaatttc	acacaggaaa	cagctatgac	catgattacg	3960
ccaagcgcgc aattaaccct	cactaaaggg	aacaaaagct	ggagctccac	cgcggtggcg	4020
gccgctctag aactagtgga	tcccccgggc	tgcaggaatt	cgatatcaag	cttatcgata	4080
ccgctgacct cgagggggg	cccggtaccc	aattcgccct	atagtgagtc	gtattacgcg	4140
cgctcactgg ccgtcgtttt	acaacgtcgt	gactgggaaa	accctggcgt	tacccaactt	4200
aatcgccttg cagcacatcc	ccctttcgcc	agctggcgta	atagcgaaga	ggcccgcacc	4260
gatcgccctt cccaacagtt	gcgcagcctg	aatggcgaat	ggaaattgta	agcgttaata	4320
ttttgttaaa attcgcgtta	aatttttgtt	aaatcagctc	attttttaac	caataggccg	4380
aaatcggcaa aatcccttat	aaatcaaaag	aatagaccga	gatagggttg	agtgttgttc	4440
cagtttggaa caagagtcca	ctattaaaga	acgtggactc	caacgtcaaa	gggcgaaaaa	4500
ccgtctatca gggcgatggc	ccactactcc	gggatcatat	gacaagatgt	gtatccacct	4560
taacttaatg atttttacca	aaatcattag	gggattcatc	agtgctcagg	gtcaacgaga	4620
attaacattc cgtcaggaaa	gcttatgatg	atgatgtgct	taaaaactta	ctcaatggct	4680

ggttatgca	t atcgcaatac	atgcgaaaaa	cctaaaagag	cttgccgata	aaaaaggcca	4740
atttattgc	t atttaccgcg	gctttttatt	gagcttgaaa	gataaataaa	atagataggt	4800
tttatttga	a gctaaatctt	ctttatcgta	aaaaatgccc	tcttgggtta	tcaagagggt	4860
cattatatt	t cgcggaataa	catcatttgg	tgacgaaata	actaagcact	tgtctcctgt	4920
ttactcccc	t gagcttgagg	ggttaacatg	aaggtcatcg	atagcaggat	aataatacag	4980
taaaacgct	a aaccaataat	ccaaatccag	ccatcccaaa	ttggtagtga	atgattataa	5040
ataacagca	a acagtaatgg	gccaataaca	ccggttgcat	tggtaaggct	caccaataat	5100
ccctgtaaa	g caccttgctg	atgactcttt	gtttggatag	acatcactcc	ctgtaatgca	5160
ggtaaagcg	a tcccaccacc	agccaataaa	attaaaacag	ggaaaactaa	ccaaccttca	5220
gatataaac	g ctaaaaaggc	aaatgcacta	ctatctgcaa	taaatccgag	cagtactgcc	5280
gttttttcg	c ccatttagtg	gctattcttc	ctgccacaaa	ggcttggaat	actgagtgta	5340
aaagaccaa	g acc					